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ABSTRACT

This economic impact study examines the ways in which Pellissippi State Technical Community College (Tennessee) is a major contributor to the economic base of Knox and Blount Counties. The report is based on a standard model of economic impact modified for community colleges, and it uses conservative income and employment modifiers to determine economic impact. The explicit economic impact is expressed in terms of jobs created, business volume generated, and personal income earned, while the implicit impact is expressed through the improved productivity and quality of life achieved through increased education. The combined 5-year (1996-2001) direct economic impact in the community represents $420 million, or an average of $84 million per year. Of this amount, $324.6 million, or over $64 million per year, was due to an infusion of new, external/non-local revenues. The local business volume generated by college expenditures during 1996-2001 was $210.6 million, with $160.9 million due to non-local revenues. Annual business volume generated ranged from $37.2 million to $48.3 million. Local full-time jobs created during the period as a result of the College's presence totaled 15,626, in addition to the College's own 2,087 full-time jobs. Of this total, 11,753 jobs were the result of non-local revenues. For every $1 of local revenues coming into the College, there is a total investment return of $6.81 to $7.20 on the local dollar. (NB)

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An Analysis Of the College's Economic Impact

1996-2001

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A Major Partner in the Economic Vitality of the Knoxville Metropolitan Area

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A Major Partner in the Economic Vitality of the Knoxville Metropolitan Area

AN ANALYSIS OF THE COLLEGE'S ECONOMIC IMPACT

1996 - 2001

March 2002

Dr. Fred Martin

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Note: This report is also available on the College's web site at www.pstcc.cc.tn.us/departments/institutional_research/strategic.htm

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EXECUTIVE SUMMARY

The fourteenth annual analysis of the direct economic impact of Pellissippi State Technical Community College (PSTCC) on Knox and Blount counties has recently been completed. It measures the College's five-year (1996-2001) economic impact on the community in terms of (1) business volume, (2) employment and (3) individual income. Not included in the study is the indirect economic impact that results from having a trained and educated work force available to local businesses.

The report is based on a standard model of economic impact modified for community colleges. The model uses conservative income and employment multipliers to determine economic impact.

The study reveals that over $126 million in "new", nonlocal, state/federal revenues flowed into the area during 1996-2001 as a result of the College's presence. These external revenues represented 67.4 percent of the total college revenues for the period. A total of over $61 million in local revenues was also received by the College during this period. The economic impact resulting from college expenditures in the area was as follows:

1. The local **business volume** generated by college expenditures during 1996-2001 was **$210.6 million**, with $160.9 million being due to non-local revenues. Annual business volume generated ranged from $37.2 million to $48.3 million.
2. Local **full-time jobs created** during 1996-2001 as a result of the College's presence totaled **15,626** (in addition to Pellissippi State's own 2,087 full-time jobs). Of this total, 11,753 jobs were the result of non-local revenues. Annual full-time jobs generated ranged from 2,786 to 3,560.

3. **Individual income** generated by college expenditures during 1996-2001 totaled **$209.6 million** using the more conservative indicator, with $163.7 million being due to non-local revenues. Annual individual income generated ranged from $36.7 million to $47.9 million.

In summary, the combined five-year direct economic impact on the community represents over **$420 million**, or an average of **$84.0 million** per year. Of this amount, $324.6 million, or over $64 million per year, is due to the infusion of "new" external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every **$1.00** of local revenues coming to Pellissippi State, there was $3.41 of local business volume and from $3.40 to $3.79 of individual income generated, for a total investment return of **$6.81** to **$7.20** on the local dollar!

Another general trend over the 5 year period is a decreasing percentage of state/federal revenues and increasing percentage of local revenues. The non-local percentage declined from 68.8% to 66.7% while the local percentage increased from 31.2% to 33.3%, reflecting the state's financial problems and increases in student fees.

The study continues to document the significant force Pellissippi State has become in the economic vitality of the Knoxville metropolitan area.

INTRODUCTION

Pellissippi State Technical Community College has served the Knoxville metropolitan area since 1974, experiencing significant enrollment growth as indicated in Figure 1. This report is the fourteenth annual analysis of the five-year (1996-2001) economic impact of Pellissippi State on the Knoxville metropolitan area. The primary counties affected are Knox and Blount, with approximately 83 percent of the College's expenditures being made, on the average, in those two counties.

The analysis measures the direct, explicit economic impact of Pellissippi State on the community. It does not include the implicit, intangible economic impact that results from having a trained and educated work force available for local businesses or from expansion/recruitment of industry as a result of the presence of the College. The analysis is based on the Caffrey model of economic impact, originally developed in 1968 through the American Council of Education. The model has been adapted for application to community colleges.[1]

The model uses conservative income and employment multipliers to determine Pellissippi State's economic impact on the following:

1. Business volume--the total amount of local business volume generated as a result of the College's direct and indirect expenditures.
2. Local employment--the total number of full-time jobs generated by the College's direct and indirect expenditures.
3. Individual income--the total amount of personal income earned by local households as a result of the College's direct and indirect expenditures.

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[1]Norval L. Wellsfry, "The Los Rios Community College District: A Major Partner in the Sacramento Area's Economic Vitality," 1988 (unpublished paper).

METHODOLOGY

The model is based on a circular cash flow model as illustrated in Figure 2. The community is treated as a semi-closed economic system, with money entering the system through Pellissippi State from both local and external or "new" sources.

The local sources of revenue include student fees, local grants/contracts, private scholarships, gifts and other miscellaneous local revenue. External or "new" revenues include state appropriations for both operating and capital purposes, federal/state student financial aid revenues, state/federal grants and contracts, etc.

Pellissippi State circulates its revenues through the local economy via expenditures for employee salaries, construction, and local purchases of equipment and supplies. These expenditures are then re-circulated through the economy, increasing in value and having a multiplier or secondary impact as local businesses and households make expenditures and generate jobs.

Economic impact on the community is measured on two levels: (1) in relationship to total expenditures from all revenue sources and (2) in relationship to expenditures from only those external or "new" revenues that would likely not have occurred without Pellissippi State's presence in the economy. The following college revenues and expenditures for the five-year period 1996-2001 were incorporated into a LOTUS 1-2-3 spreadsheet template containing the model.

REVENUE SOURCES FISCAL YEAR							
SOURCES		1996-97	1997-98	1998-99	1999-00	2000-01	TOTAL
GENERAL							
	State Appro	15,347,500	15,363,800	16,548,800	17,062,100	17,514,300	81,836,500
	Local Prop Tax						
	Enroll Fees	8,285,699	8,900,535	10,012,230	10,222,611	11,209,835	48,630,910
	TOTAL	23,633,199	24,264,335	26,561,030	27,284,711	28,724,135	130,467,410
	FEDERAL	48,741	72,487	71,761	65,828	68,399	327,216
	OTHER STATE	12,150		5,500	7,525	0	25,175
	COUNTY						
	LOCAL	859,020	798,174	966,165	1,133,371	1,414,553	5,171,283
	OTHER LOCAL	0	0	0	0	0	0
SPECIAL REVENUE							
	FEDERAL	953,305	1,089,304	1,087,330	943,197	1,213,311	5,286,447
	STATE	281,054	172,039	209,100	418,835	356,928	1,437,956
	LOCAL	1,014,556	875,319	720,967	583,995	675,890	3,870,727
	OTHER	0	0	0	0	0	0
STUDENT FINANCIAL AID							
	FEDERAL	6,310,163	6,803,033	7,012,031	6,714,649	7,669,138	34,509,014
	STATE	466,523	497,095	684,317	739,589	1,117,731	3,505,255
	LOCAL	472,231	811,759	1,270,276	741,882	669,490	3,965,638
	OTHER						
TOTAL REVENUE		34,050,942	35,383,545	38,588,477	38,633,582	41,909,575	188,566,121
	LOCAL	10,631,506	11,385,787	12,969,638	12,681,859	13,969,768	61,638,558
	NON-LOCAL	23,419,436	23,997,758	25,618,839	25,951,723	27,939,807	126,927,563
	LOCAL %	31.2%	32.2%	33.6%	32.8%	33.3%	32.6%
	NON-LOCAL %	68.8%	67.8%	66.4%	67.2%	66.7%	67.4%

EXPENDITURES FISCAL YEAR						
DATA	1996-97	1997-98	1998-99	1999-00	2000-01	TOTAL
WAGES	15,807,808	15,779,822	16,724,534	16,951,133	19,830,290	85,093,587
NON-SAL EXPEN	7,078,738	7,174,011	8,231,320	9,997,737	10,584,813	43,066,619
CAPITAL EXPEN	2,014,883	2,047,445	3,149,029	2,076,178	1,749,946	11,037,481
STU FIN AID	7,248,917	8,111,887	8,966,624	8,196,120	9,456,359	41,979,907
Net Wages	11,855,856	11,834,867	12,543,401	12,713,350	14,872,718	63,820,190
Non-salary, Local	5,839,959	5,918,559	6,790,839	8,248,133	8,732,471	35,529,961
Capital, Local	1,662,278	1,689,142	2,597,949	1,712,847	1,443,705	9,105,922
FT Jobs	391	401	406	434	455	2,087
Non-local Revenue %	68.8%	67.8%	66.4%	67.2%	66.7%	67.4%
Expenditures	26,607,010	27,554,455	30,898,812	30,870,450	34,505,253	150,435,980
Expenditures (NEW)	20,562,958	21,298,187	23,527,375	23,427,375	26,155,675	114,971,570

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For the five-year period, $126.9 million in non-local revenues was brought into the service area, along with $61.6 million in local revenues. The five-year average was 67.4 percent nonlocal and 32.6 percent local revenues. It should be noted that the percentage of non-local revenues declined from 68.8% to 66.7% over the five years, with a corresponding increase in local revenue percentages. This trend reflects the state's decreased funding of higher education and the resulting increases in student fees.

RESULTS

Business Volume Impact

The local business volume impact generated by Pellissippi State expenditures is shown below:

BUSINESS VOLUME

	1996-97	1997-98	1998-99	1999-00	2000-01	TOTAL
BUSINESS VOLUME	37,249,814	38,576,237	43,258,337	43,218,629	48,307,354	210,610,372
BUSINESS VOLUME (NEW)	28,788,141	29,817,462	32,938,325	32,798,324	36,617,946	160,960,197

The business volume impact of total college expenditures ranged from $37.2 million to 48.3 million, with a five-year total of $210.6 million. The impact of external or "new" college funds ranged from $28.8 million to $36.6 million, with a five-year total of $160.9 million. Figure 3 graphs the relationship between local revenues and total business volume.

Employment Impact

The local employment impact in terms of full-time jobs created by Pellissippi State expenditures is shown on the next page:

EMPLOYMENT IMPACT						
	1996-97	1997-98	1998-99	1999-00	2000-01	TOTAL
EMPLOYMENT	2,785.63	2,880.90	3,186.89	3,212.34	3,560.47	15,626
EMPLOYMENT (NEW)	2,119.59	2,188.80	2,387.01	2,400.00	2,657.35	11,753

Pellissippi State's own full-time (FT) jobs ranged from 391 to 455 during this period, yet the total annual employment created by college expenditures ranged from 2,786 to 3,560. The number of jobs created annually by external or "new" funds ranged from 2,120 to 2,657. Figure 4 graphs the relationship between the College's FT jobs and both total and "new" FT jobs generated by the College's presence.

Individual Income Impact

The local impact of Pellissippi State's expenditures on personal income is calculated using two different multipliers to produce a range of impact, shown below as Type I and Type II. The Type I multiplier is the more conservative measure.

INCOME IMPACT						
	1996-97	1997-98	1998-99	1999-00	2000-011	TOTAL
TYPE I	36,727,777	38,303,174	43,391,607	43,242,216	47,933,757	209,598,531
TYPE II	41,238,693	42,806,104	48,164,120	48,079,392	53,592,528	233,880,837
TYPE I (NEW)	28,993,581	30,283,290	33,778,448	33,485,196	37,155,045	163,695,560
TYPE II (NEW)	32,096,083	33,337,259	36,946,913	36,734,520	40,927,572	180,042,347

The total impact of college expenditures on personal income, using the more conservative indicator, ranged from $36.7 million to $47.9 million, with a five-year total of $209.6 million. The impact of external or "new" funds ranged from $29.0 million to $37.2 million, with a five-year total

of $163.7 million. Figure 3 also graphs the relationship between local revenues and total personal income.

In summary, the combined five-year direct economic impact on the community represents over $420 million, or an average of $84.0 million per year. Of this amount, $324.6 million, or over $64 million per year, was due to the infusion of "new", external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every $1.00 of local revenues coming to Pellissippi State, there was $3.41 of local business volume and from $3.40 to $3.79 of individual income generated, for a total investment return of $6.81 to $7.20 on the local dollar!

CONCLUSIONS

The results of this economic impact study clearly demonstrate that Pellissippi State Technical Community College continues to be a major contributor to the economic base of Knox and Blount Counties. In addition to the more implicit impact of a community college on the improved productivity and quality of life achieved through increased education, the explicit economic impact is significant. This economic impact is expressed in terms of jobs created, business volume generated and personal income earned.

As Pellissippi State continues to grow in enrollment and/or budget, its economic impact on the Knoxville metropolitan area will increase similarly. The College has clearly become a major partner and force in the economic vitality of the Knoxville metropolitan area.

Figure 1

PSTCC Historical Headcount Enrollment By Fall Terms

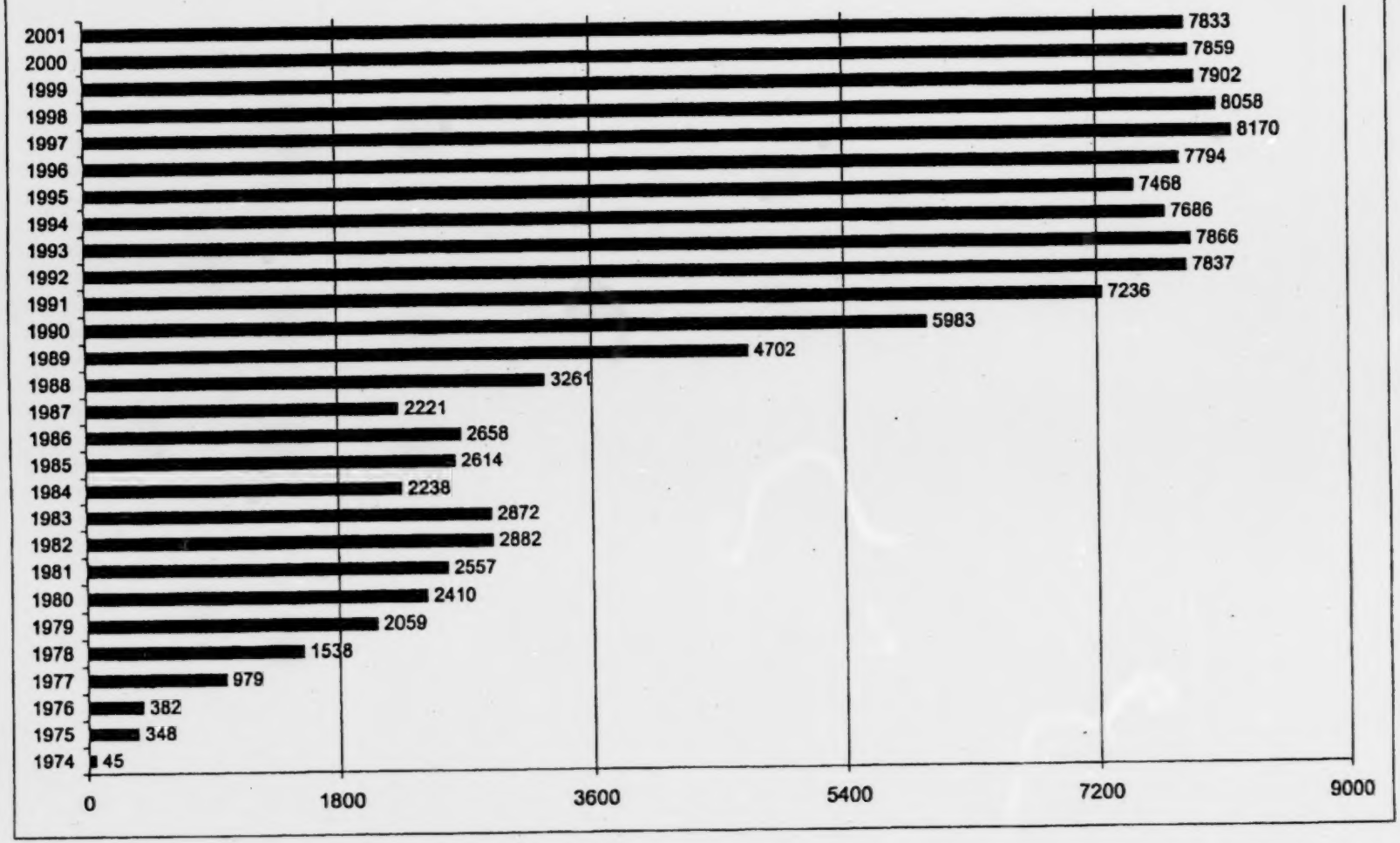

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Figure 2

Circular Cash Flow Model

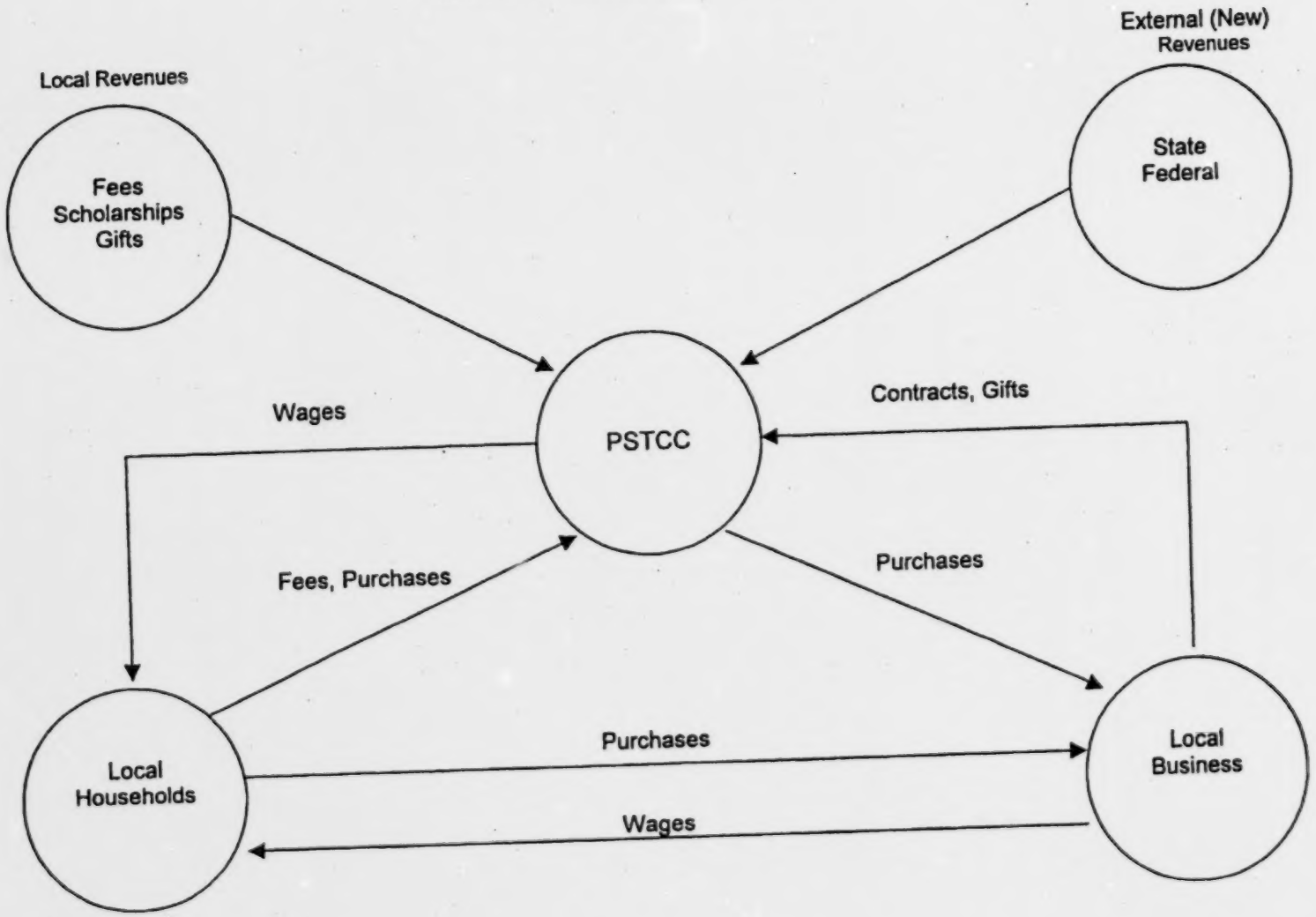


Figure 3

ECONOMIC IMPACT ANALYSIS

Local Revenue/Total Impact

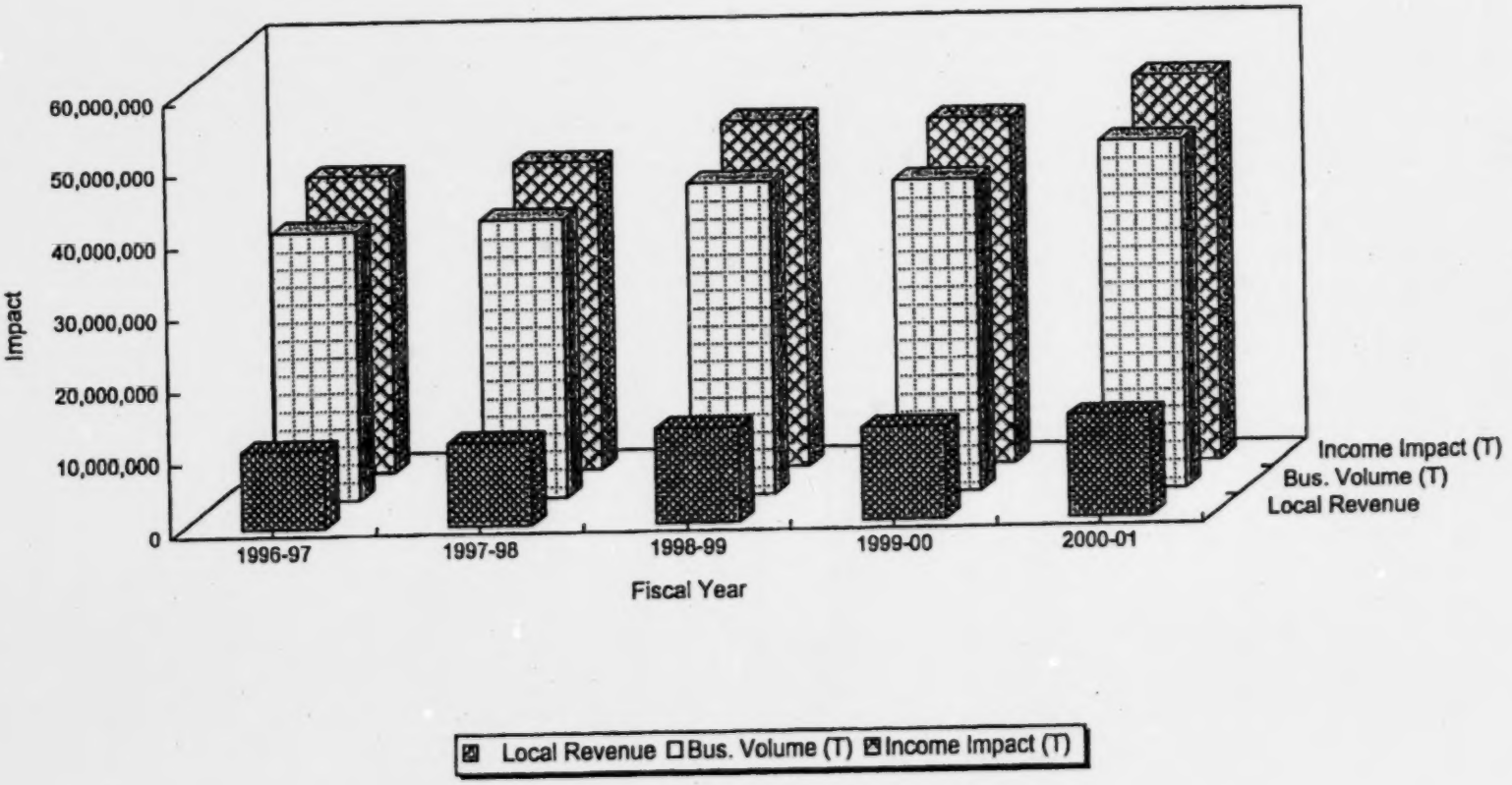
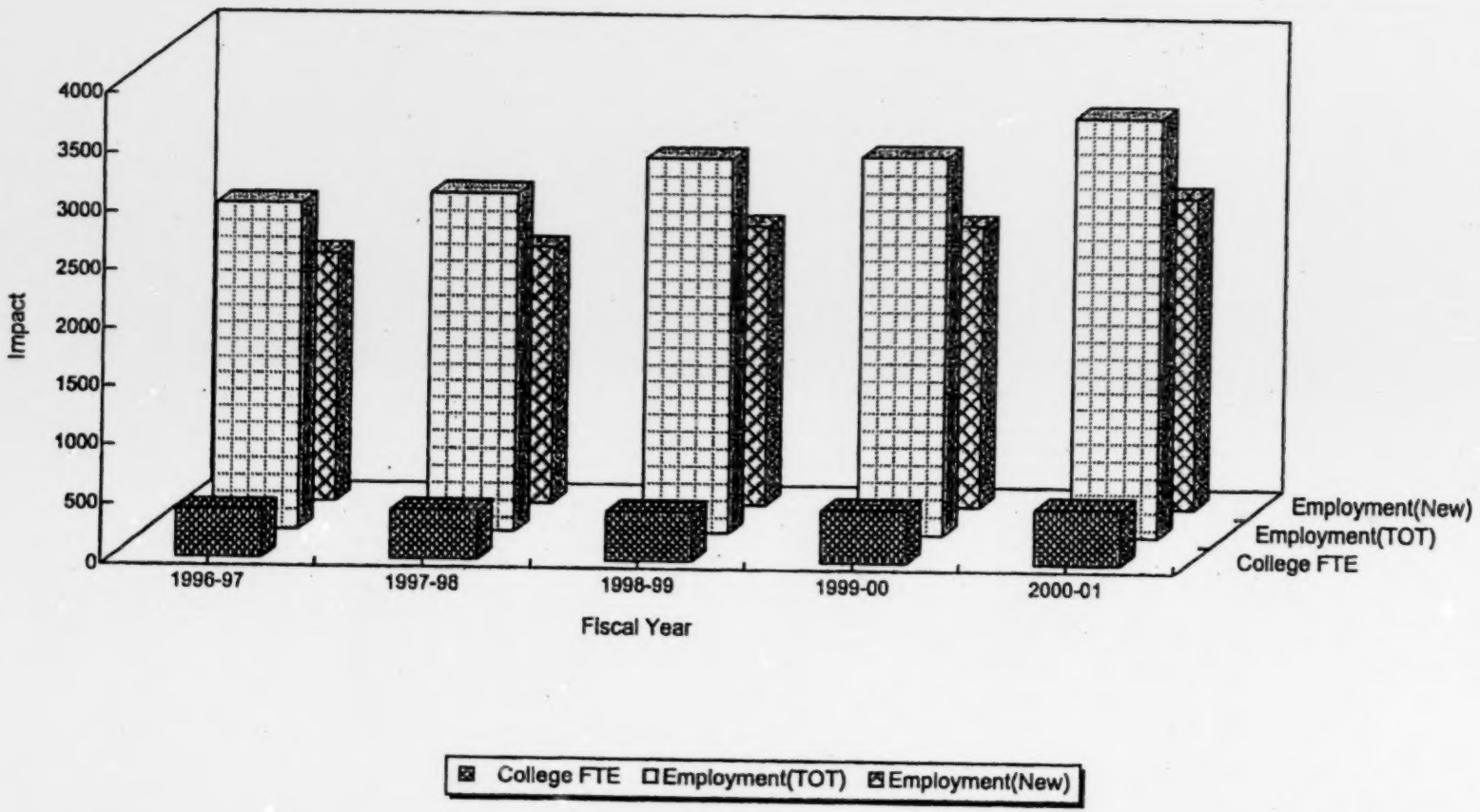


Figure 4

ECONOMIC IMPACT ANALYSIS

Employment Impact



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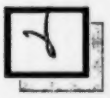

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